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10/761,667	01/21/2004	Kenneth Dong	26241-013	3419

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Mintz, Levin, Cohn, Ferris,
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One Financial Center
Boston, MA 02111

EXAMINER

RASHID, DAVID

ART UNIT	PAPER NUMBER
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2624

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/761,667

Applicant(s)

DONG ET AL.

Examiner

David P. Rashid

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment: See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

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DETAILED ACTION

All of the examiner's suggestions presented herein below have been assumed for examination purposes, unless otherwise noted.

Priority

1. MPEP Section 201.11(B) REFERENCE TO PRIOR PROVISIONAL APPLICATIONS cites the proper way to reference prior provisional applications:

“When the nonprovisional application is entitled to an earlier U.S. effective filing date of one or more provisional applications under 35 U.S.C. 119(e), a statement such as “This application claims the benefit of U.S. Provisional Application No. 60/---, filed ---, and U.S. Provisional Application No. 60/ ---, filed ---.” should appear as the first sentence(s) of the description or in an application data sheet.... Thus, applicants seeking to claim the priority to a provisional application under 35 U.S.C. 119(e) should not state that the application is a “continuation” of a provisional application or that the application claims 35 U.S.C. 120 benefit to a provisional application.”

It is suggested to replace the first sentence of the description with “This application claims the benefit of U.S. Provisional Application No. 60/457,132, filed March 24, 2003.”

Drawings

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application due to the high number of objections needed to correct. Applicant is advised to

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employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:

(i) Page 6, line 8 contains a grammatical error – suggest changing to “...compared to a newly acquired image...”.

Appropriate correction is required.

Claim Objections

4. The following is a quotation of 37 CFR 1.75(a):

The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

5. **Claim 1** is objected to under 37 CFR 1.75(a), as failing to conform to particularly point out and distinctly claim the subject matter which application regards as his invention or discovery.

(i) Claim 1, line 1 contains a grammatical error – suggest changing to “...for identifying an individual comprising...”

6. **Claims 2 and 11** are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to

cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claims 2 and 11 both attempt to add “the step of creating the standard three dimensional facial image”, however, the claims from which they depend already introduce the “standard three dimensional facial image” when combining the image with the “two dimensional facial image”. For this to occur, the “standard three dimensional facial image” must have already been created and thus claims 2 and 11 fail to further limit the subject matter.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, and 20** are rejected under 35 U.S.C. 102(b) as being anticipated by Kado et al. (US 5,995,639 A).

Regarding **claim 1**, Kado discloses a facial processing method comprising (FIG. 1; FIG. 14; FIG. 11 with “Brightness Correction”, Col. 7, lines 23 - 52) the steps of:

receiving a two dimensional facial image (FIG. 14, element 2; “Input image” in FIG. 11);
and

combining the two dimensional facial image and a standard three dimensional facial image (FIG. 14, element 14; “Standard structure model” in FIG. 11) to create a three dimensional facial image (FIG. 14, element 16; “Adjusted structure mode” in FIG. 11 before brightness correction step 19 in FIG. 14).

Regarding **claim 2**, claim 1 recites identical features as in claim 2. Thus, references/arguments equivalent to those presented above for claim 1 are equally applicable to claim 2.

Regarding **claim 4**, Kado discloses the facial processing method of claim 1, wherein the combining step includes the steps of:

combining the two dimensional facial image (FIG. 14, element 2; “Input image” in FIG. 11) and standard three dimensional facial image (FIG. 14, element 14; “Standard structure model” in FIG. 11) to create a first intermediate three dimensional facial image (FIG. 14, element 15; Col. 3, lines 48 - 54);

rendering a first intermediate two dimensional facial image (“S. M. Adjust” in FIG. 14, element 15 is a two dimensional facial image when displayed on the two dimensional display 5, the image data itself representing element 15 is also two dimensional) based upon the first intermediate three dimensional facial image;

comparing (FIG. 14, element 16; “Feature amount extraction” in FIG. 11; Col. 3, line 66 – Col. 4, line 7) the first intermediate two dimensional facial image to the two dimensional facial image; and

modifying (“Adjusted structure mode” in FIG. 11 INCLUDING brightness correction step 19 in FIG. 14) the first intermediate three dimensional facial image based upon results of the comparison step.

Regarding **claim 5**, Kado discloses a facial processing method of claim 4, wherein the combining step further includes the step of repeating the rendering, comparing, and modifying steps a plurality of times (If not already inherent, it is implicit that the complete algorithm for identifying a person as taught by Kado will be performed more than once on microcomputer 3, thus the combining step within the complete algorithm will repeat the rendering, comparing, and modifying steps a plurality of times.).

Regarding **claim 6**, Kado discloses a facial processing method of claim 4, further comprising the steps of:

adjusting a pose of the three dimensional facial image (FIG. 14, element 19 wherein the changing of the “pose” is brightness correction as detailed in Col. 7, lines 23 - 52); and

rendering a final two dimensional image from the adjusted three dimensional facial image (“Adjusted structure model” in FIG. 11 after brightness correction step 19 in FIG. 14 is a two dimensional facial image when displayed on the two dimensional display 5, the image data itself representing the “Adjusted structure model” in FIG. 11 after brightness correction step 19 is also two dimensional).

Regarding **claim 7**, Kado discloses the facial processing method of claim 4, further comprising the steps of: rendering a final two dimensional image from the three dimensional facial image according to a selected lighting (brightness correction as detailed in Col. 7, lines 23 - 52).

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Regarding **claim 8**, Kado discloses a facial identification method (FIG. 1; FIG. 14; FIG. 11 with “Brightness Correction”, Col. 7, lines 23 - 52) comprising the steps of:

receiving a two dimensional facial image (FIG. 14, element 2; “Input image” in FIG. 11);
creating a three dimensional facial image (FIG. 14, element 16; “Adjusted structure mode” in FIG. 11 before brightness correction step 19 in FIG. 14) from the two dimensional facial image;

adjusting a pose of the three dimensional facial image (FIG. 14, element 19 wherein the changing of the “pose” is brightness correction as detailed in Col. 7, lines 23 - 52);

rendering an adjusted two dimensional facial image (“Adjusted structure model” in FIG. 11 after brightness correction step 19 in FIG. 14 is a two dimensional facial image when displayed on the two dimensional display 5, the image data itself representing the “Adjusted structure model” in FIG. 11 after brightness correction step 19 is also two dimensional) from the adjusted three dimensional facial image; and

comparing the rendered two dimensional facial image to at least one stored two dimensional facial image to determine a match (FIG. 14, elements 17, 18, “Results” ; Col. 4, lines 19 – 27).

Regarding **claim 9**, Kado discloses the facial identification method of claim 8, wherein the comparing step includes:

comparing the rendered two dimensional image (the “Adjusted structure model” in FIG. 11 is a two dimensional facial image when displayed on the two dimensional display 5) to a plurality of stored two dimensional facial images to determine a closest match (FIG. 14, elements 17, 18, “Results” ; Col. 4, lines 19 – 27).

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Regarding **claim 10**, Kado discloses the facial identification method of claim 8, wherein the step of creating a three dimensional facial image (FIG. 14, element 16; “Adjusted structure mode” in FIG. 11 before brightness correction step 19 in FIG. 14) includes the step of combining the two dimensional facial image (FIG. 14, element 2; “Input image” in FIG. 11) and a standard three dimensional facial image (FIG. 14, element 14; “Standard structure model” in FIG. 11) to create a three dimensional facial image.

Regarding **claim 11**, claim 10 recites identical features as in claim 11. Thus, references/arguments equivalent to those presented above for claim 10 are equally applicable to claim 11.

Regarding **claim 13**, Kado discloses a system for identifying an individual (FIG. 1; FIG. 14; FIG. 11 with “Brightness Correction”, Col. 7, lines 23 - 52) comprising:

a camera (FIG. 1, elements 1, 2) for acquiring a two dimensional facial image (FIG. 14, element 2; “Input image” in FIG. 11);

means for creating a three dimensional facial image (FIG. 14, element 16; “Adjusted structure mode” in FIG. 11 before brightness correction step 19 in FIG. 14) from the two dimensional facial image;

means for adjusting the three dimensional facial image (FIG. 14, element 19);

means for rendering a final two dimensional image (“Adjusted structure model” in FIG. 11 after brightness correction step 19 in FIG. 14 is a two dimensional facial image when displayed on the two dimensional display 5, the image data itself representing the “Adjusted structure model” in FIG. 11 after brightness correction step 19 is also two dimensional) from the adjusted three dimensional image; and

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means for comparing the final two dimensional image to at least one stored two dimensional image to determine a match (FIG. 14, elements 17, 18, “Results” ; Col. 4, lines 19 – 27).

The means-plus-function language supports computer/software interaction (FIG. 1 of the present application) and is fully anticipated by the computer/software interaction as disclosed by Kado (FIG. 1).

Regarding **claim 14**, Kado discloses the system for identifying an individual according to claim 13, further comprising:

a database of stored two dimensional images (FIG. 14, element 17); and

wherein the means for comparing includes means for comparing the final two dimensional image to at least one stored two dimensional image in the database of stored two dimensional images (FIG. 14, elements 17, “Results”).

Regarding **claim 15**, Kado discloses the system for identifying an individual according to claim 14, wherein the means for comparing includes means for comparing the final two dimensional image to a plurality of stored two dimensional images in the database to determine a closest match (FIG. 14, elements 17, 18, “Results” ; Col. 4, lines 19 – 27).

The means-plus-function language supports computer/software interaction (FIG. 1 of the present application) and is fully anticipated by the computer/software interaction as disclosed by Kado (FIG. 1).

Regarding **claim 16**, Kado discloses the system for identifying an individual according to claim 13, wherein the means for adjusting includes means for changing a pose (FIG. 14, element 19 wherein the changing of the “pose” is brightness correction as detailed in Col. 7, lines 23 - 52)

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of the three dimensional facial image (FIG. 14, element 16; “Adjusted structure mode” in FIG. 11 before brightness correction step 19 in FIG. 14).

The means-plus-function language supports computer/software interaction (FIG. 1 of the present application) and is fully anticipated by the computer/software interaction as disclosed by Kado (FIG. 1).

Regarding **claim 17**, claim 7 recites identical features as in claim 17. Thus, references/arguments equivalent to those presented above for claim 7 are equally applicable to claim 17.

The means-plus-function language supports computer/software interaction (FIG. 1 of the present application) and is fully anticipated by the computer/software interaction as disclosed by Kado (FIG. 1).

Regarding **claim 18**, claim 4 recites identical features as in claim 18. Thus, references/arguments equivalent to those presented above for claim 4 are equally applicable to claim 18.

The means-plus-function language supports computer/software interaction (FIG. 1 of the present application) and is fully anticipated by the computer/software interaction as disclosed by Kado (FIG. 1).

Regarding **claim 19**, Kado discloses a system (FIG. 1; FIG. 14; FIG. 11 with “Brightness Correction”, Col. 7, lines 23 - 52) for creating a three dimensional facial image (FIG. 14, element 16; “Adjusted structure mode” in FIG. 11 before brightness correction step 19 in FIG. 14) from a two dimensional facial image (FIG. 14, element 2; “Input image” in FIG. 11) comprising:

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a memory (FIG. 1, elements 3, 4) storing a standard three dimensional facial image (FIG. 14, element 14; "Standard structure model" in FIG. 11); and

means for combining (FIG. 14) the two-dimensional facial image and the standard three dimensional facial image to create the three dimensional facial image.

The means-plus-function language supports computer/software interaction (FIG. 1 of the present application) and is fully anticipated by the computer/software interaction as disclosed by Kado (FIG. 1).

Regarding **claim 20**, claim 4 recites identical features as in claim 20. Thus, references/arguments equivalent to those presented above for claim 4 are equally applicable to claim 20.

The means-plus-function language supports computer/software interaction (FIG. 1 of the present application) and is fully anticipated by the computer/software interaction as disclosed by Kado (FIG. 1).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. **Claims 3 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kado et al. (US 5,995,639 A) in view of Toyama et al. (US 2002/0013684 A1).

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Regarding **claim 3**, while Kado discloses the facial processing method of claim 2, Kado does not teach wherein the step of creating a standard three dimensional facial image includes the steps of:

- receiving a plurality of three dimensional facial images; and
- combining the plurality of three dimensional facial images to create the standard three dimensional facial image.

Toyama discloses a method for modifying a standard model (FIG. 1; FIG. 11) wherein the step of creating a standard three dimensional facial image (FIG. 11, element 40) includes the steps of:

- receiving a plurality of three dimensional facial images (FIG. 11, elements 37, 38); and
- combining the plurality of three dimensional facial images to create the standard three dimensional facial image (FIG. 11, elements 39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the step of creating a standard three dimensional facial image of Kado to include receiving a plurality of three dimensional facial images; and combining the plurality of three dimensional facial images to create the standard three dimensional facial image as taught by Toyama "...to provide a method for generating a shape model that enables to have a part of a three-dimensional model such as a corner of an eye or a corner of an eye or a corner of a mouth conformed to that of an object without topical improper modification.", Toyama, paragraph [0016].

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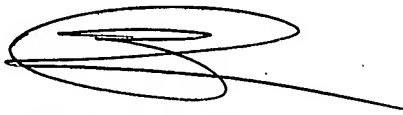
Regarding **claim 12**, claim 3 recites identical features as in claim 12. Thus, references/arguments equivalent to those presented above for claim 3 are equally applicable to claim 12.

Conclusion

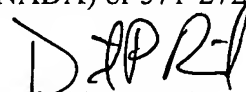
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Rashid whose telephone number is (571) 270-1578. The examiner can normally be reached on 7:30 - 17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Werner can be reached on (571) 272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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